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Osteo-Chondritis of the Lumbar Spine

BY

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Osteo-chondritis of the thoracic spine is a fairly well recognised condition; often referred to as Scheuermann's disease (adolescent kyphosis, vertebral epiphysitis). There is, however, a variety of this condition affecting the lumbar spine, described by Wiles (1949) and Haffner (1952). The importance of the condition is that it usually occurs in children between the ages of 12 and 17 years and may be mistaken for a more serious condition such as tuberculosis of the spine. The patient is usually a healthy boy who suddenly starts to complain of a lumbar backache. Quite often this may start after an athletic injury, or misguided attempts at toe touching with the knees extended in a child with tight hamstring muscles (Fig. 1).

Radiographs of the lumbar spine reveal an anterior wedging of one or more of the lumbar vertebrae. This is usually associated with a narrowing of the intervertebral disc and an apparent destruction of bone of the anterior part of the affected vertebra adjacent to the narrow disc (Fig. 2). On clinical examination there is usually tenderness over the affected portion of the spine and slight muscle spasm, although this may be absent. There is no muscle wasting. Forward flexion may be limited, but lateral bending and rotation are usually normal. The history often reveals that the child has always had difficulty in touching his toes and has subjected his spine to a considerable degree of forced flexion in order to keep pace with his fellows in the school gymnasium.

ETIOLOGY

It is considered that this is primarily a lesion of the intervertebral discs and occurs in children with tight hamstring muscles or with lumbar spines which have not the usual range of flexion. Forced flexion movements in these children

greatly increase the intervertebral disc pressure. The secondary centres of ossification in the vertebral epiphyseal rings which occur at the time of puberty are subjected to pressure anteriorly and their growth is retarded. The curious feature is that one seldom sees any evidence of this disordered growth in later life. It must be presumed that the secondary centres of ossification have excellent powers of recovery.

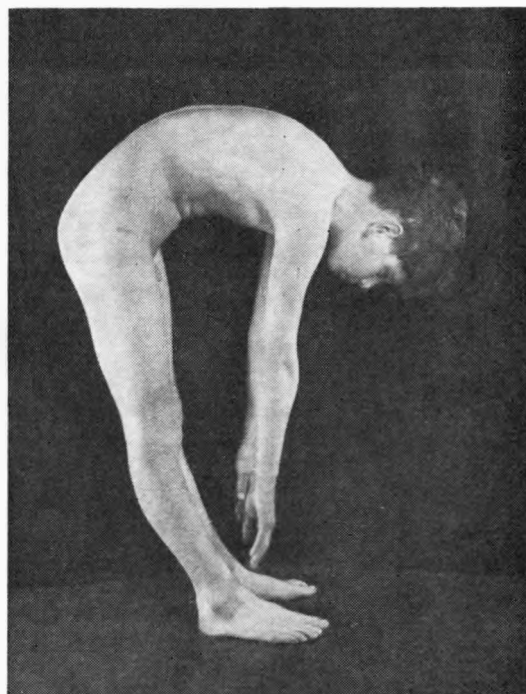


Fig. 1—Boy aged 13 years attempting to touch his toes. Tight hamstring muscles prevent the pelvis rotating in the normal manner, and the anterior superior iliac spine does not drop to the level of the top of the greater trochanter of the femur. An excessive flexion strain is borne by the upper section of the lumbar spine.

DIAGNOSIS

Once one is aware of the existence of the condition there is no difficulty in diagnosis, and a study of the radiographs of several cases reveals a considerable degree of uniformity of the growth disorder.

The narrowed intervertebral disc is suggestive of tuberculosis, but there is no osteoporosis and the outline of the psoas shadows is normal, indicating that there is no abscess formation (Fig. 3).



Fig. 2--Lateral X-ray of lumbar spine of a boy aged 15 years. There is narrowing of the first lumbar disc and erosion of the anterior portion of the adjacent lumbar vertebrae. There are similar pathological changes affecting the other vertebrae, but to a lesser extent.

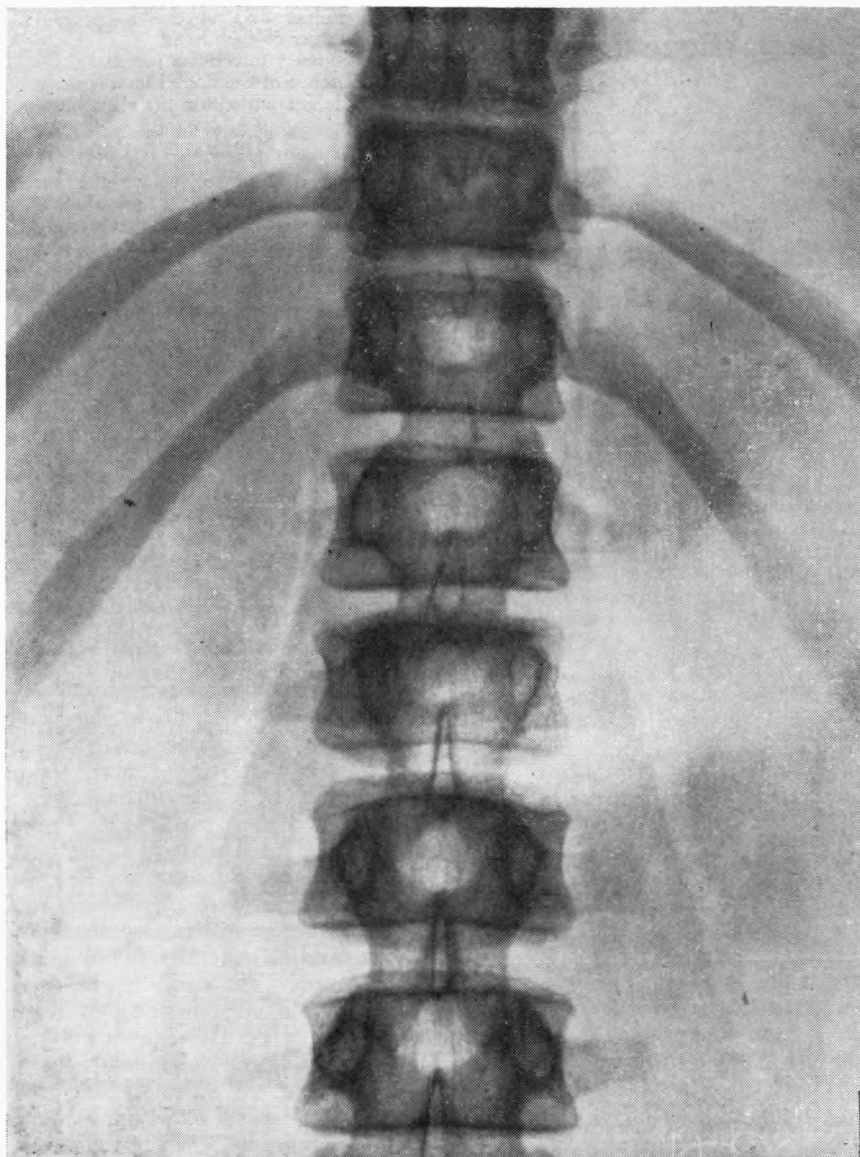


Fig. 3—Antero-posterior X-ray of lumbar spine of a boy aged 15 years. The superior surfaces of the second and third lumbar vertebrae are irregular, but the outlines of the psoas muscle shadows are normal. In tuberculosis of the spine a cold abscess would form and a bulge in the psoas outlines would be seen.

The sedimentation rate, blood count and blood chemistry are normal.

TREATMENT

The spine should be rested and forced flexion exercises forbidden. In patients with troublesome backache a few weeks' rest in bed or a plaster jacket may be required, but this is

usually unnecessary. The parents may be reassured that there will be no troublesome symptoms in adult life.

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- WILES, P. (1949). *Essentials of Orthopaedics*. London: J. & A. Churchill, Ltd.
HAFFNER, R. H. V. (1952). *J. Bone & Joint Surg.* 34b, 39.



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